

Date: Tuesday, 4/25/2006 8:39:05 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : FWD TUBE ASSEMBLY
 Job Number : 26827
 Estimate Number : 10467
 P.O. Number :
 This Issue : 4/25/2006 S.O. No. :
 Prsht Rev. : NC Part Number : D3391021
 First Issue : / / Type : MACHINED PARTS Drawing Number : D3391 REV B 06.05.11
 Previous Run : 26571 Project Number : N/A REV E
 Drawing Revision : D
 Material :
 Due Date : 5/20/2006 Qty: 1 Um: Each
 Written By :
 Checked & Approved By : *06.04.25*
 Comment : Est. A 05.09.13 New issue KJ/JLM
 Est. B 06.02.10 Dwg rev.D ech 773 EC

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description:

1.0 D6013047 SKIDTUBE MAT'L



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	

Batch

B23935 DP 06-4-26

2.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Cut extrusion to 46.52 +0.010 -0.020

3.0 BENDING BENDING MACHINE



Comment: No bender

Bend as per Dwg D3391 Using Bend Prog 3391021

DP 06-4-26

4.0 QC5 INSPECT WORK TO CURRENT STEP

*26-4-26 ①*

Comment: INSPECT WORK TO CURRENT STEP

5.0 HAAS1 HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. *AA* & Dwg D3391 Rev. *E*

Identify as D3391-1

2-Deburr



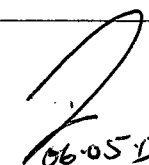
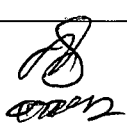
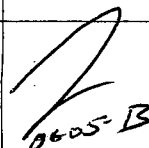
ATO

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06/05/13	5	the piece move ^{turned} in the vice and the measure 1.429 was 1.590 and 3.200 was 3.440		Scrap: destroy.	 06-05-13	 06-05-13		 06-05-13

NOTE: Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:05 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 26827

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

8.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill and c'sink float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Drill wearplate holes as per Dwg D3391 Using Dt8217 & DT8878

6--Deburr

9.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:05 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 26827

Part Number: D3391021

Job Number:



Seq. #:	Machine Or Operation:	Description :
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12.0	D3401041	Tow Cap Assembly
------	----------	------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Tow Cap Assembly

Pick:

Qty	Part Number	Description	Batch
1	D3401-041	Tow Cap	

13.0	AN3C4A	BOLT
------	--------	------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
4	AN3C4A	Bolt	

14.0	NAS1330C3KB166	
------	----------------	--



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Rivnut

Pick:

Qty	Part Number	Description	Batch
14	NAS1330C3KB166	Insert	

15.0	NAS1515H3L	WASHER
------	------------	--------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Washer

Pick:

Qty	Part Number	Description	Batch
4	NAS1515H3L	Washer	

16.0	AN960C10L	washer
------	-----------	--------



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

washer

17.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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Comment: SMALL & MEDIUM FAB RESOURCE 1

Install inserts and Tow Cap as per Dwg D3391

Identify as D3391-021

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 4/25/2006 8:39:06 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 26827

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Inspect thread of each insert using DT8821

19.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

20.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

Job Completion



6 06-06-02

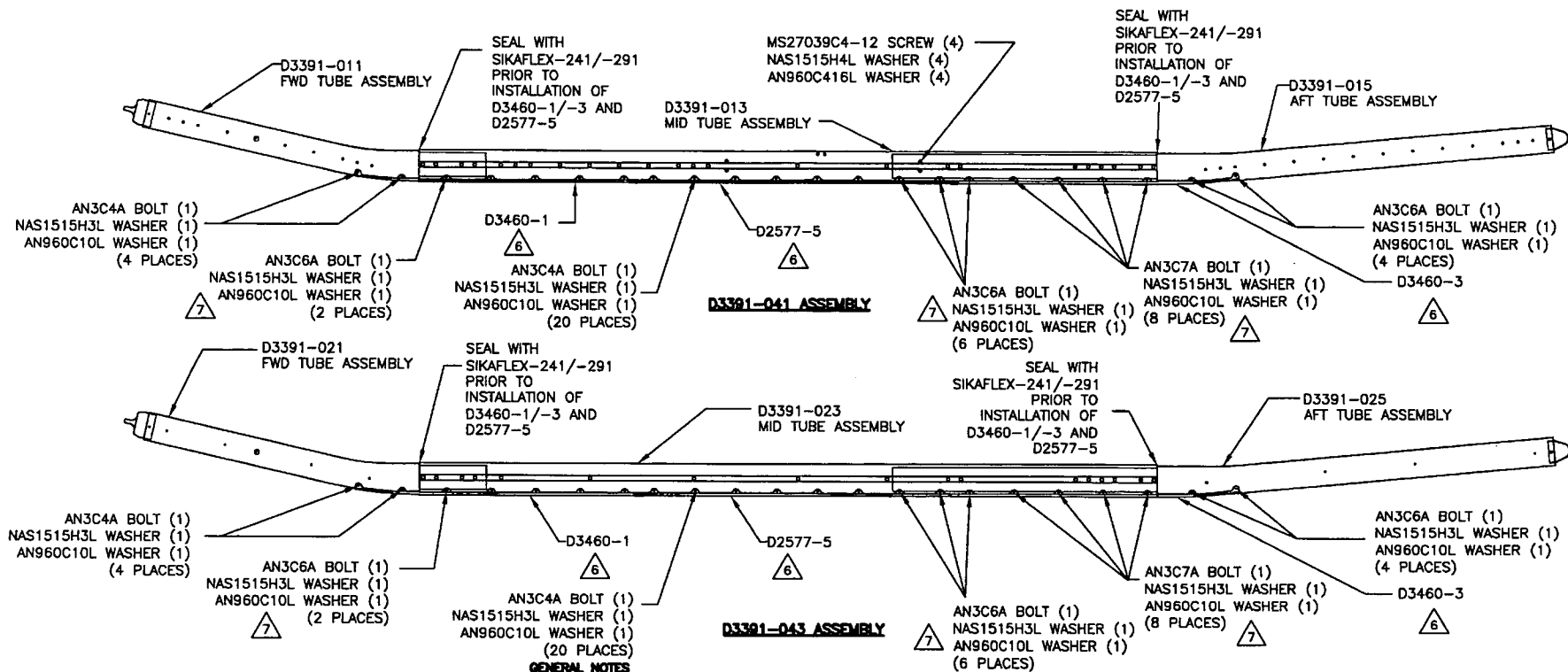
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



GENERAL NOTES

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS.
C'SINK #0.391/#0.425 x 100' AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- 7) DO NOT TORQUE, HAND TIGHTEN ONLY

△ D

D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

RELEASED

06-05-03

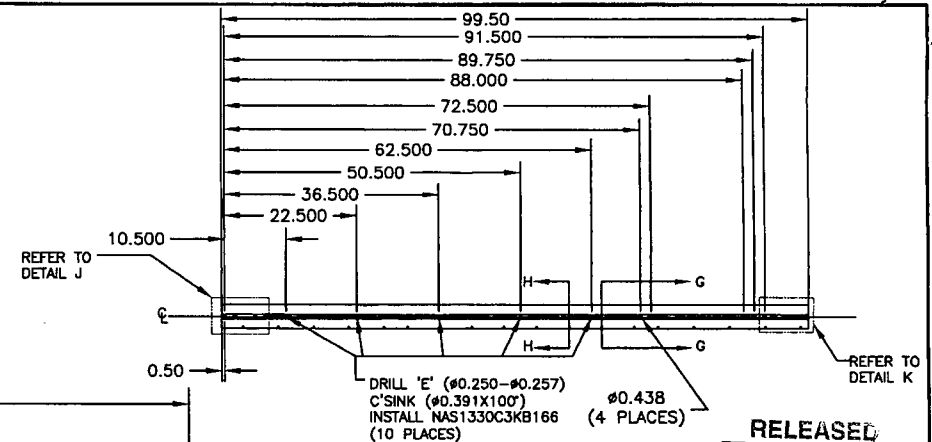
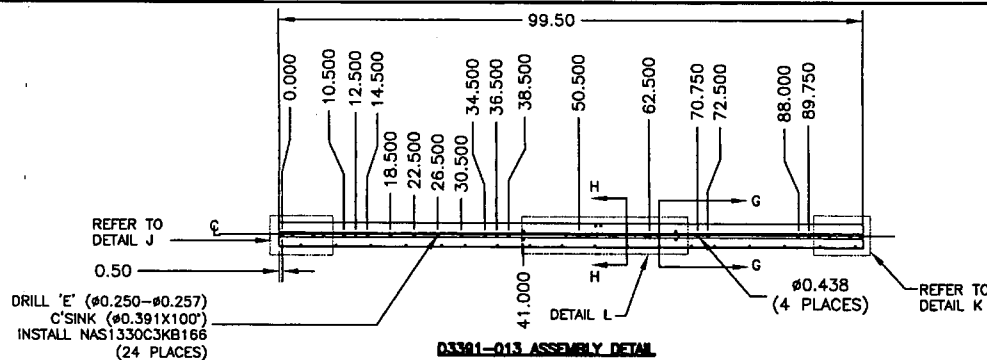
E	06.04.25	CHANGE TOLERANCE, EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	DRAWN BY	
PH	PH	
CHECKED	APPROVED	
DATE	TITLE	
06.04.25	412 FLOAT SKIDTUBE	

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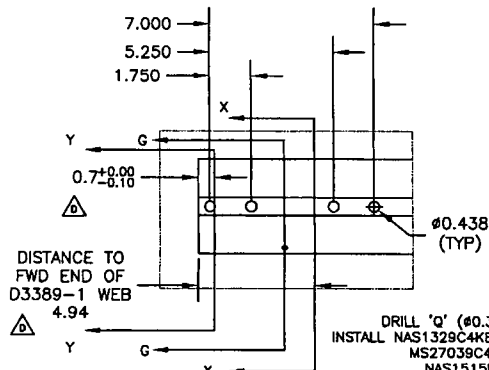
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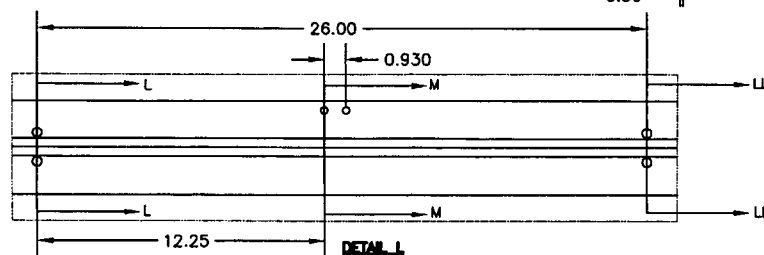
REV. E
SHEET 1 OF 5
SCALE
NTS



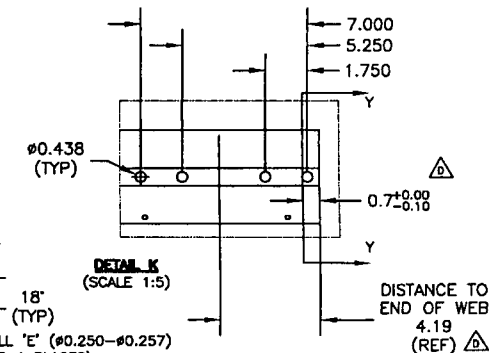
RELEASED
06.05.06



DRILL 'Q' (#0.332-#0.338)
INSTALL NAS1329C4KB140 INSERT
MS27039C4-08 SCREW
NAS1515H4L WASHER
AN960C416L WASHER
(TYP 4 PLACES)



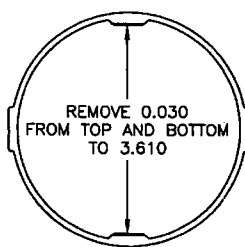
DRILL 'E' (#0.250-#0.257)
C'SINK (#0.391X100")
INSTALL NAS1330C3KB116 INSERT
MS27039C1-09 SCREW
NAS1515H3L WASHER
AN960C10L WASHER
(TYP 4 PLACES)



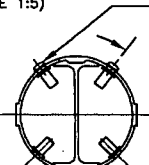
D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X	X	D3391-013	MID TUBE ASSEMBLY
		D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

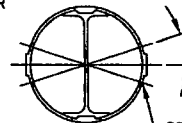
SECTION L-L (SCALE 1:4)



SECTION M-M (SCALE 1:4)

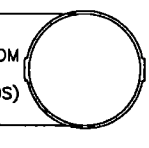


SECTION U-U (SCALE 1:4)



REMOVE 0.225 FROM TOP AND BOTTOM TO 3.800 (0.7 FROM BOTH ENDS)

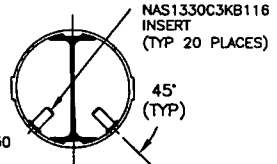
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SECTION G-G (SCALE 1:4)



SECTION H-H (SCALE 1:4)



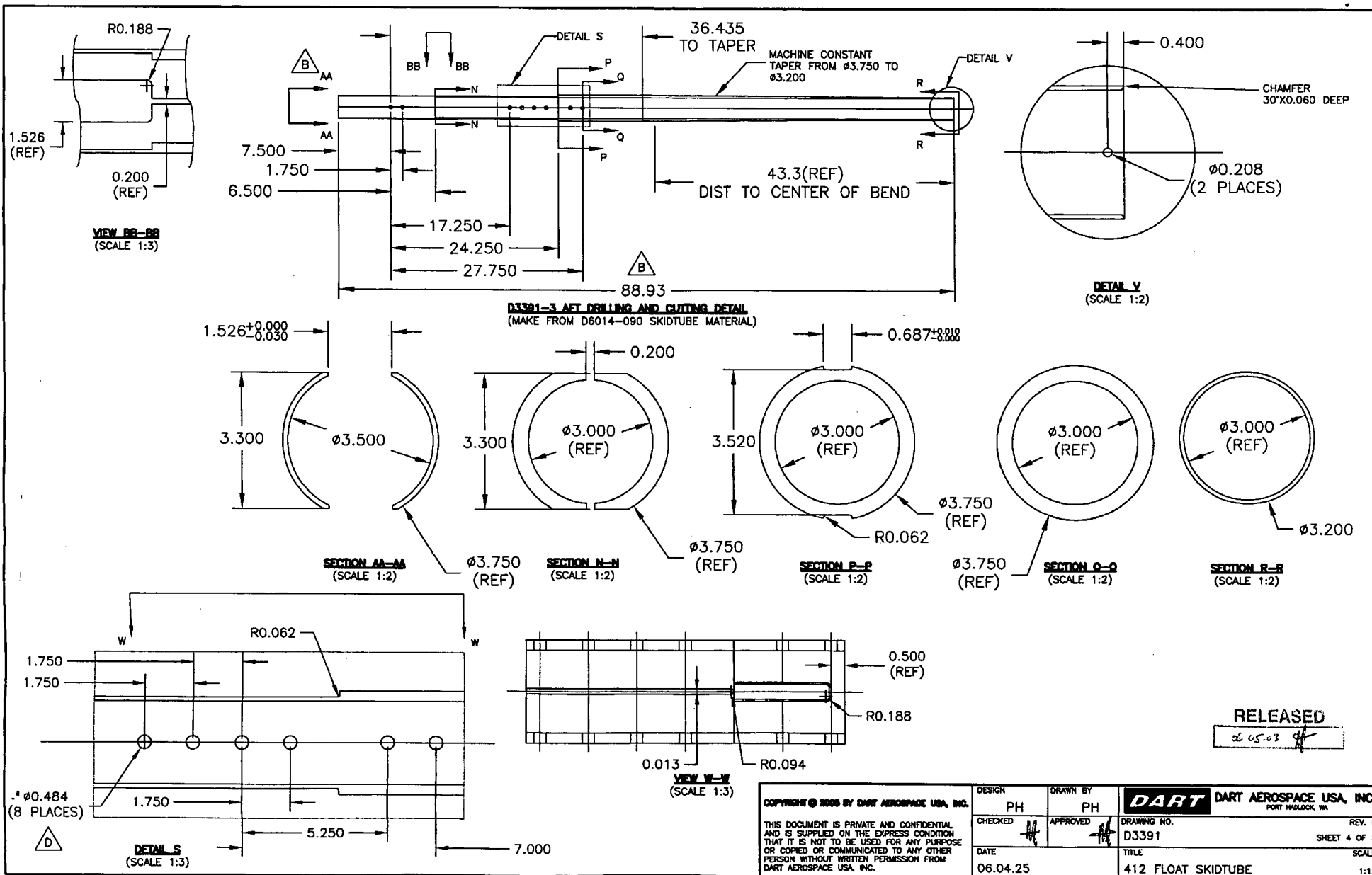
D3391-013/-023 MID TUBE ASSEMBLY



- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015

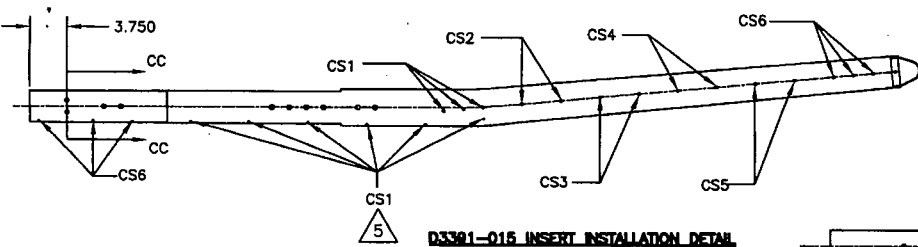
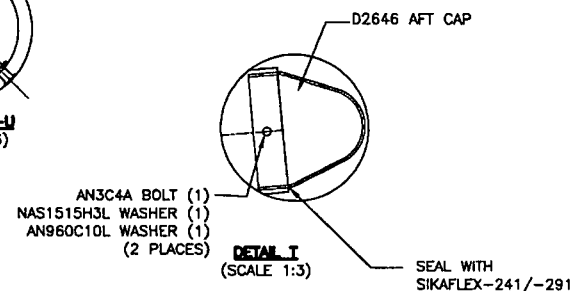
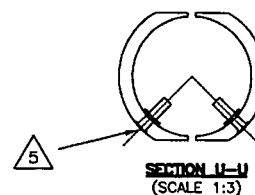
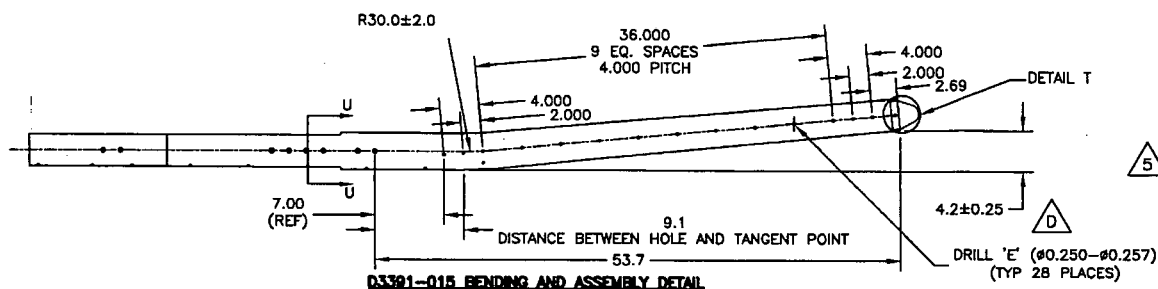
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DESIGN PH	DRAWN BY PH	DART DART Aerospace USA, INC. PORT HADLOCK, MA	REV. E
CHECKED #	APPROVED #	DRAWING NO. D3391	SHEET 3 OF 5
DATE 06.04.25	TITLE 412 FLOAT SKIDTUBE	SCALE 1:20	



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CHECKED		APPROVED		DRAWING NO. D3391	
DATE	06.04.25	TITLE 412 FLOAT SKIDTUBE			SCALE 1:12

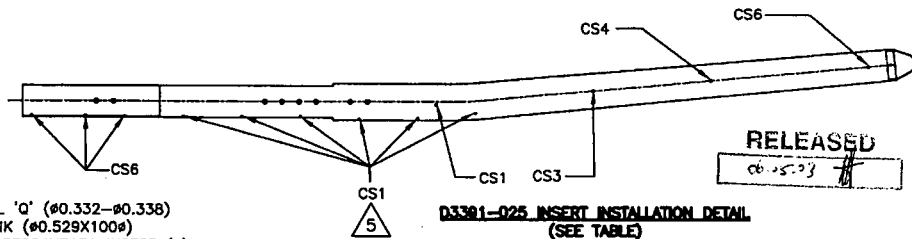
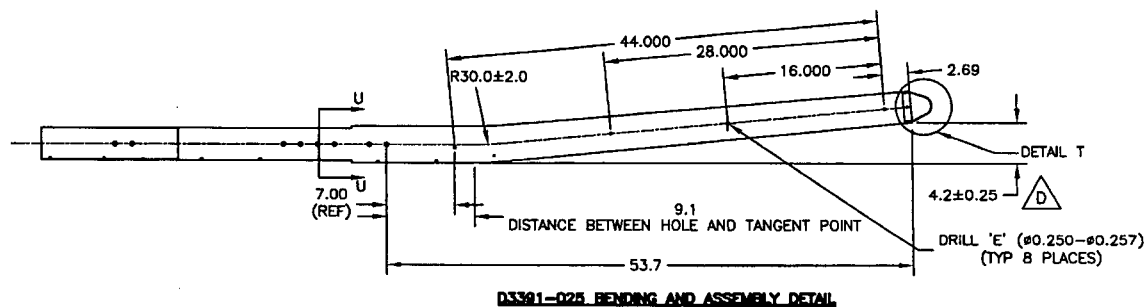
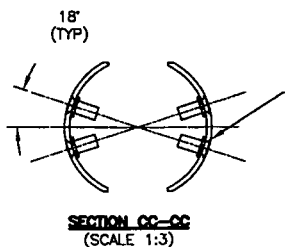


C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	CTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB386
CS2	4		Ø0.391	AESS10KB386
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB386	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



DRILL 'Q' (#0.332-#0.338)
C'SINK (#0.529X100#)
NAS1330C4KB151 INSERT (1)
(4 PLACES)

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DESIGN	PH	DRAWN BY	PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED		APPROVED		DRAWING NO. D3391
DATE	06.04.25	TITLE	412 FLOAT SKIDTUBE	REV. E SHEET 5 OF 5 SCALE 1:12